Texas Cooperative EXTENSION
The Texas A&M University System

Result Demonstration/Applied Research Report

2005 EL PASO COUNTY STACKED COTTON VARIETY DEMONSTRATION

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SUMMARY

Ten cotton varieties were planted to compare fiber yield and quality characteristic under similar irrigated production conditions. Deltapine 454 BR and FiberMax 989 B2R were the highest yielding varieties in this test. FiberMax 960 BG/RR had the highest loan value at 55.32 cents per pound. This is only one years result and continued testing is recommended before making a significant switch to a new variety.

PROBLEMS

Several new varieties of cotton become available each year and when combined with the varieties already available makes planting seed selection increasingly difficult. Producers need local data to help in selecting adapted high yielding varieties with desirable fiber quality traits. Higher strength and longer staple are the primary fiber quality characteristics they are looking for.

OBJECTIVE

With improved varieties being introduced each season, testing is a necessary part of any farming operation. This field test was established to compare new and traditional varieties. The main focus will be to find those varieties that provide high lint yield with desirable fiber traits. Since some varieties have a limited success within a narrow range of production conditions, local testing is necessary and justified. This test will allow area producers to determine if new varieties being introduced are more productive than what they currently planting. Also, it will provide area producers with the opportunity to examine the differences in plant development between the old and new varieties.

MATERIALS AND METHODS

Cooperator: Kenneth Carr, Borderland Farms, Ft. Hancock
County Precinct:
Planting Date: April 21, 2005
Planting Rate: 13 pounds per acre
Planting Pattern: Solid 40 inch rows
Previous Crop: Cotton
Irrigation:
Fertilizer:
Herbicide:
Insecticide:
Soil Type: Silty Clay Loam
Harvest Date: October 31, 2005

Two to three weeks after planting the varieties were visually rated for vigor. At the one- to four-leaf stage stand counts were made within each plot. Fields were monitored on a weekly basis through the IPM scouting program to document plant growth and insect activity.

The test plots were picker harvested to determine the yield per acre. A five pound sample of seed cotton was ginned at the Texas Agricultural Experiment Station in Lubbock to determine the percent turnout of lint and seed. A sample of the ginned cotton was taken to the International Textile Center in Lubbock to have fiber properties determined using a HVI classing machine.

RESULTS, DISCUSSION AND ECONOMIC ANALYSIS

The lint yields in this test ranged from 876 to 1155 pounds per acre. Deltapine 454 BR had a significantly higher yield than three of the varieties in the test. However, it had the shortest fiber length, and the lowest mic and strength resulting in the lowest loan valuae. FiberMax 989 B2R topped the test on gross return due to yield and fiber qualities.

FiberMax 960 B2R had the highest loan value at 55.32 cents per pound. However, it was significantly lower on lint and seed production resulting in a lower gross income per acre.

As you look at Table 1 on the next page, you will see that no variety topped all categories which would have made it easy to select the top variety. However, several varieties performed well in most categories and would be worth testing on a five acre plot on the farm to see how it performs under your management. Remember that this is only one years result and continued testing is recommended before making a significant switch to a new variety.

Table 1. Data from Borderland Farms' 2005 Irrigated Cotton Variety Test (El Paso County)

	Yield Per Acre In Pounds		% Turnout		Fiber Quality								
Variety	Lint	Seed	Lint	Seed	Color-Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity	CCC Loan Value	Lint Gross Return ($/acre)	Seed Gross Return ($/acre)	Total Gross Return ($/acre)
FiberMax 989 B2R	1096	1799	34.1	56.0	412	36	3.7	29.5	80.9	55.30	605.64	89.94	695.58
	ab	a				a	bc	a	a				
Deltapine 455 BR	1080	1414	38.5	50.4	311	35	3.5	27.8	79.5	54.17	584.07	70.69	654.75
	ab	bc				bcd	def	abc	bc				
Stoneville ST 4575 BR	1084	1581	35.5	51.9	412	34	4.0	26.1	80.7	52.97	574.88	79.07	653.95
	ab	ab				de	a	c	ab				
Deltapine 454 BR	1155	1550	36.3	48.7	412	33	3.4	26.1	80.0	49.35	569.58	77.49	647.07
	a	abc				e	f	c	abc				
Deltapine 449 BR	1023	1578	35.4	54.7	411	35	4.0	29.3	81.1	54.48	557.66	78.92	636.59
	ab	ab				abc	a	a	a				
Deltapine 488 BR	959	1418	35.4	52.5	412	36	3.8	28.8	80.3	54.65	524.27	70.92	595.19
	ab	bc				a	abc	ab	ab				
FiberMax 991 B2R	958	1515	35.4	56.0	412	36	3.5	29.0	79.7	53.55	512.85	75.77	588.62
	ab	abc				ab	ef	a	abc				
FiberMax 960 B2R	906	1379	34.5	52.7	412	36	3.7	29.3	80.1	55.32	501.93	68.97	570.89
	b	bc				ab	bc	a	abc				
Deltapine 05X648DR	913	1264	37.9	52.6	412	34	3.7	27.2	78.9	52.90	482.93	63.21	546.15
	b	c				cd	cd	bc	c				
Stoneville ST 6636 BR	876	1369	34.8	54.4	412	36	3.9	27.8	81.1	54.48	477.51	68.45	545.96
	c	bc				ab	ab	abc	a				

Note: 1) A cottonseed price of $100 per ton was used for income calculation.

2) In Table 1 the individual or combination of letter a, b, c, d, e or f shown below the number are to indicate statistical significance. There is no statistical difference between numbers that have the same letter (even when there appears to be a large difference in results between the varieties).

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